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NAVY PLAN FOR PROVIDING CENTRALIZED OFFICE SPACE AT THE 1/1  
WASHINGTON NAVY Y. (U) GENERAL ACCOUNTING OFFICE  
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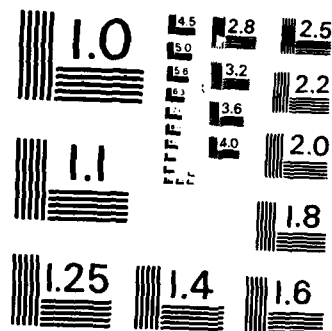
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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Chairman,  
Committee On Appropriations  
House Of Representatives

Navy Plan For Providing Centralized  
Office Space At The Washington  
Navy Yard Is Cost-Effective

The Navy plan to redevelop the Washington Navy Yard and move from leased office space has merit. GAO estimates the federal government's costs, in present value terms, would be \$263 million less over the next 30 years by proceeding with this plan.

GAO believes that the Congress should appropriate the necessary funds and authorize the start of redevelopment, provided it concludes that the impact on affected local jurisdictions is acceptable. The Department of Defense agrees with the report.

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GAO/NSIAD-84-133  
JUNE 15, 1984



UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

NATIONAL SECURITY AND  
INTERNATIONAL AFFAIRS DIVISION

B-215498



The Honorable Jamie L. Whitten  
Chairman, Committee on Appropriations  
House of Representatives

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Dear Mr. Chairman:

In response to your letter dated October 17, 1983, and subsequent discussions with your office, we reviewed the Navy plan to move from leased space and redevelop the Washington Navy Yard to provide centralized office space for 18,000 employees. We found the Navy plan has merit. On the basis of our economic analysis, we estimate the federal government's costs, in present value terms, would be \$263 million less over the next 30 years by proceeding with this plan.

OBJECTIVE, SCOPE, AND METHODOLOGY

As requested, our overall objective was to review the Navy plan for redeveloping the Navy Yard and evaluate its cost effectiveness. We concentrated on (1) identifying the scope and cost of the redevelopment effort, (2) updating the cost data used in the Navy economic analysis of its plan, and (3) determining current and projected leasing costs for privately owned office space. Also, we reviewed a draft of the final environmental impact statement on the relocation of Navy personnel from leased office space to government-owned office space.

Our evaluation of the cost effectiveness of the Navy plan was based on planning, budgeting, and cost information provided by the Navy, cost data furnished by the General Services Administration (GSA), and interviews with Navy and GSA officials and representatives of local jurisdictions affected by the Navy plan. Our review was conducted primarily at the Naval Facilities Engineering Command, Washington Navy Yard, and GSA. We made the review between November 1983 and May 1984 and in accordance with generally accepted government audit standards.

WASHINGTON NAVY YARD REDEVELOPMENT

The Navy Yard is the oldest Navy installation in continuous use. It was originally a shipbuilding yard and later a manufacturing plant called the Naval Gun Factory. It now is the ceremonial center for the Navy as well as an administrative and support activity for Navy offices in the Washington, D.C., area. Consisting of 66.3 acres, the Navy Yard is the largest Navy land holding in the District of Columbia.

Redevelopment planning for the Navy Yard has been ongoing since 1963 when the Naval Gun Factory was closed. The latest plan was started in 1981 after the Navy had studied several sites in the area and had concluded that the Navy Yard would be the most cost-effective to develop. The Navy studies were done in response to congressional and Department of Defense (DOD) concerns about rising lease rates in the capital area and because many of GSA's low cost, 20-year fixed rate leases for buildings occupied by the Navy would be expiring in 1989, 1990, and 1991.

The Navy plan, which was issued in March 1982, calls for (1) acquiring 26.7 acres of adjacent Southeast Federal Center land from GSA, (2) converting existing underutilized industrial buildings into offices, (3) renovating other buildings, and (4) constructing several buildings. The plan provides for medium density areas in the east and west sections of the Navy Yard, a low density historic area in the middle, and a park-like appearance along the waterfront. Redevelopment would create the necessary office space and parking garages to accommodate 18,000 employees now located in 2.9 million square feet of leased space at seven area locations.

According to the Navy plan, redevelopment would cost \$280 million in fiscal year 1983 dollars and would be done in five phases. In fiscal year 1983, the Navy requested funds to begin the first phase but the Congress did not approve the request. Funds were not requested in fiscal years 1984 and 1985 to start the first phase. However, the Navy did request funds for fiscal year 1985 to renovate one building at the Navy Yard to satisfy part of an additional requirement for 350,000 square feet of office space. This space will house some functions that the Navy wants to move from the Suitland Federal Center to eliminate overcrowded conditions there. If this project is approved, the Navy plan would have to be revised because the building is one of those also scheduled for renovation under the plan.

ENVIRONMENTAL IMPACT STATEMENT

The Navy has not issued a final environmental impact statement on the relocation of Navy personnel from leased space to

government-owned office space. However, a draft of the report, prepared by a contractor and submitted to the Navy for coordination in January 1984, concluded that the Navy Yard was the preferred alternative of four sites previously determined to have high potential for accommodating a major new Navy administrative complex.

The report draft states that movement to the Navy Yard would provide the most net positive environmental benefits with the fewest negative environmental consequences. Positive benefits include land use improvements, physical and biological improvements (landscaped areas and development of the waterfront area), and the adaptive reuse of historic structures. Negative consequences would be limited to constraints upon transportation systems and wastewater treatment capacity at the Blue Plains facility.

The report draft does not address the impact on the jurisdictions that would lose the employees. According to the report, these impacts are highly sensitive to the sequence and timing of proposed moves and can be analyzed more accurately closer to the times of individual moves. The draft report further states that the Navy will prepare environmental impact statements on a case-by-case basis as each move is proposed.

#### REDEVELOPMENT AND LEASING COST COMPARISON

In 1981 the Navy made an economic analysis to compare the cost of redeveloping the Navy Yard with the cost of continuing to lease office space. The analysis was made on both a constant dollar basis and a present value basis. The constant dollar analysis showed the impact of expenditures on appropriations in estimated fiscal year 1983 dollars. The present value analysis compared alternative programs' governmentwide cost impact, including interest, by considering the time value of money.

The Navy's constant dollar analysis showed that the savings in lease costs would equal the \$280 million redevelopment cost in about 13 years. Its present value analysis showed the breakeven point to be 25 years.

During our review, we updated the Navy analysis, converted the constant dollar estimates to current dollar estimates, and discounted them by a rate of 11 percent. Our present value analysis showed that the government's costs would be \$263 million less in present value terms over a 30-year period, which is the normal economic life for permanent buildings, by redeveloping the Navy Yard and moving out of leased space. Using present value, the breakeven point would be 16 years.

Our economic analysis is discussed in more detail in appendix I.

TRENDS IN COST AND DEMAND  
FOR LEASED SPACE

Under the Navy plan, most of the people moving to the Navy Yard will vacate leased space in northern Virginia. According to GSA officials, the demand for office space in this area is strong and lease rates will continue to rise at or above the annual inflation rate.

The rise in lease rates is illustrated by the Crystal City, Virginia, complex. In the late 1960s the average lease rate was \$7 a square foot; by 1983 it was \$20 a square foot. Using consumer price index projections, we estimate that the lease rate could rise to \$120 a square foot over the next 30 years.

GSA statements on the strong demand for office space were confirmed during our discussions with northern Virginia and Arlington County, Virginia, officials and our review of documents furnished by these officials. According to the documents provided by Arlington County officials, vacancy rates in the county are averaging less than 2 percent and new space is being leased at a rate of nearly 1 million square feet a year. In Crystal City, where 8 million square feet of space is under lease, the demand for more leased space has resulted in the construction of another 675,000 square feet and in plans for an additional 2 million square feet over the next 4 years.

Virginia officials, however, are concerned about the proposed Navy move and how it will impact the demand for leased space and the Arlington County economy. Arlington County officials stated, at the January 1983 public hearings on the Navy plan, that the proposed move would seriously undermine the county's economic health, create a hardship on the 11,000 northern Virginia residents employed by the Navy, and adversely affect the many businesses that provide services to Navy offices, employees, and contractors.

CONCLUSION

The Navy plan to redevelop the Navy Yard and to move from leased space is cost-effective based on our economic analysis and should result in significant savings to the federal government. Accordingly, we believe that the Congress should appropriate the necessary funds and authorize the start of redevelopment, provided it concludes that the impact on affected local jurisdictions is acceptable.

AGENCY COMMENTS

Official DOD comments on a draft of this report were received on June 5, 1984. (See app. II.) DOD agreed with the report and provided several clarifying comments, which we considered in finalizing the report.

DOD expressed concern about the Navy's ability to fully implement the redevelopment plan because of an impending action by GSA. DOD stated that GSA has announced a master plan for the Southeast Federal Center, which proposes demolition of buildings that the Navy planned to renovate under its plan. DOD noted that the GSA plan raised a question about GSA's willingness to transfer part of the Southeast Federal Center property to the Navy. We asked GSA about this matter and we were told that the GSA plan is only a proposal and has not been approved for implementation. GSA further stated that a GSA-Navy agreement to transfer a portion of the Southeast Federal Center to the Navy is still valid.

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As arranged with your office, we are sending copies of this report to the Director, Office of Management and Budget; the Chairman, House Committee on Government Operations, Senate Committee on Governmental Affairs, and House and Senate Committees on Appropriations and on Armed Services; and the Secretaries of Defense and the Navy. Copies will be made available to other interested parties upon request.

Sincerely yours,



Frank C. Conahan  
Director



ECONOMIC ANALYSIS OF THE  
WASHINGTON NAVY YARD  
REDEVELOPMENT PLAN

In 1981 the Navy made an economic analysis to compare the cost of redeveloping the Navy Yard with the cost of continuing to lease office space. The analysis was made on both a constant dollar basis and a present value basis. The constant dollar analysis showed the impact of expenditures on appropriations in estimated fiscal year 1983 dollars. The present value analysis compared alternative programs' government-wide cost impact, including interest, by considering the time value of money. The Navy's analysis was made in general accordance with various Office of Management and Budget (OMB), DOD, and Navy instructions.

During our review, we updated the Navy analysis following the same general format. However, some of our assumptions were different from the Navy's.

- The Navy's analysis was made in constant dollars; ours was made in current dollars. Current dollars reflect anticipated price-level changes and, therefore, are associated with the purchasing power of the dollar in the year that the expenditure will occur. Lease costs were based on projected increases in consumer price index rates that ranged from 4.8 percent to 6.5 percent annually over the next 30 years (1985 to 2014). Construction costs were based on projected increases in national product index rates that ranged from 5.0 percent to 7.7 percent annually for non-residential structures for the same 30-year period.
- In determining present value, the Navy used a 10 percent discount rate prescribed by OMB. We used an 11 percent rate based on long-term government borrowings as of January 1984.
- The fiscal year 1983 lease rates estimated by the Navy in its 1981 analysis were about 10 percent higher than those currently estimated by GSA for 1983 (actual rates were not available). Our analysis started with the current GSA estimate.

Both the Navy analysis and our analysis found that the redevelopment plan is cost-effective. The Navy's constant dollar analysis showed that the breakeven point, where the savings in lease costs equals the redevelopment cost, is about 13 years. Our current dollar analysis (payback method) showed that the breakeven point is 11 years, while our present value method

analysis showed that the breakeven point is 25 years in the Navy analysis and 16 years in our analysis.

We estimate that over a 30-year period, which is the normal economic life for permanent buildings, the government's costs would be \$263 million less in present value dollars by redeveloping the Navy Yard and moving out of leased space. The results of our analysis are summarized in the following tables and discussion.

#### PAYBACK METHOD ANALYSIS

Assuming a zero discount rate, a \$2.9 billion savings would be achieved by going ahead with the redevelopment plan. This represents the difference between the estimated 30-year leasing costs of \$3.97 billion under the present arrangement and the estimated investment and operating costs of \$1.03 billion under the redevelopment plan. Table 1 gives a breakdown of the redevelopment costs by year and type--renovation and new construction costs, lease costs incurred until redevelopment is completed, and operation and maintenance costs for the redeveloped space. Table 2 shows the scope and cost of each of the five phases of redevelopment and table 3 compares the costs of continuing the current leasing arrangement with the lease costs to be incurred until redevelopment is completed.

Table 1  
Redevelopment Plan Costs

| <u>Fiscal year</u> | <u>Investment<sup>a</sup></u> | <u>Lease<sup>b</sup></u> | <u>Operating<sup>c</sup></u> | <u>Total</u>     |
|--------------------|-------------------------------|--------------------------|------------------------------|------------------|
|                    | ----- (millions) -----        |                          |                              |                  |
| 1985               | \$ 6.0                        | \$23.2                   | \$ 0                         | \$ 29.2          |
| 1986               | 34.5                          | 25.8                     | 0                            | 60.3             |
| 1987               | 81.2                          | 28.9                     | 0.3                          | 110.4            |
| 1988               | 95.7                          | 28.1                     | 1.7                          | 125.5            |
| 1989               | 78.7                          | 25.9                     | 4.7                          | 109.3            |
| 1990               | 61.6                          | 18.3                     | 7.0                          | 86.9             |
| 1991               | 0                             | 11.2                     | 9.1                          | 20.3             |
| 1992               | 0                             | 0                        | 9.8                          | 9.8              |
| 1993-2014          | <u>0</u>                      | <u>0</u>                 | <u>480.6</u>                 | <u>480.6</u>     |
| Total              | <u>\$357.7</u>                | <u>\$161.4</u>           | <u>\$513.2</u>               | <u>\$1,032.3</u> |

<sup>a</sup>Renovation and new construction is to be done in five phases. Table 2 summarizes these phases.

<sup>b</sup>Employees will move out of leased space in stages as the redevelopment phases are completed. Until then, lease costs will continue to be incurred. Table 3 compares these costs with the lease costs to be incurred if the redevelopment plan is not implemented.

<sup>c</sup>Operation and maintenance costs will gradually increase as the renovation phases are completed. Once the phases are completed, we estimate that the costs will continue to increase at the projected national product index rates.

Table 2  
Navy Yard Redevelopment  
Construction Phases

| <u>Phase<sup>a</sup></u> | <u>Scope</u>  | <u>Gross<br/>square<br/>feet</u> | <u>Estimated<br/>costs<sup>b</sup></u><br>(millions) |
|--------------------------|---|----------------------------------|--|
| 1                        | Renovate one building                                   | 158,600                          | \$17.9   |
| 2                        | Renovate four buildings                                 | 495,334                          | 67.9   |
| 3                        | Renovate three buildings;<br>construct one new building | 1,061,000                        | 107.7  |
| 4                        | Renovate three buildings                                | 691,610                          | 71.8   |
| 5                        | Construct two new buildings                             | <u>461,000</u>                   | <u>92.4</u>  |
| Total                    | Renovate 11 buildings; con-<br>struct three buildings   | <u>2,867,544</u>                 | <u>\$357.7</u>                                       |

<sup>a</sup>These phases also include costs for supporting facilities and services, such as parking; supply; site improvements; electrical, air conditioning, and sewer systems; and moving from leased space.

<sup>b</sup>Estimated costs are based on 1983 actual construction cost data on other projects and other information provided by the Navy and GSA and publications such as Black's Office Leasing Guide and Dodge's Construction Systems Costs Manual. The costs were converted to current dollars on the basis of projected national product indice rates for nonresidential structures.

Table 3

Lease Costs

| <u>Fiscal year</u> | <u>Current arrangement</u>     |                            | <u>Redevelopment plan</u>      |                         | <u>Rental reduction</u>    |
|--------------------|--------------------------------|----------------------------|--------------------------------|-------------------------|----------------------------|
|                    | <u>Square feet<sup>a</sup></u> | <u>Cost<sup>c</sup></u>    | <u>Square feet<sup>a</sup></u> | <u>Cost<sup>c</sup></u> |                            |
|                    |                                | (mil.)                     |                                | (mil.)                  | (mil.)                     |
| 1985               | 2,384,950                      | \$23.2                     | 2,384,950                      | \$23.2                  | \$ 0                       |
| 1986               | 2,384,950                      | 25.8                       | 2,384,950                      | 25.8                    | 0                          |
| 1987               | 2,384,950                      | 28.9                       | 2,384,950                      | 28.9                    | 0                          |
| 1988               | 2,384,950                      | 30.8                       | 2,210,824                      | 28.1                    | 2.7                        |
| 1989               | 2,384,950                      | 33.1                       | 1,775,428                      | 25.9                    | 7.2                        |
| 1990               | 2,384,950                      | 40.4                       | 877,993                        | 18.3                    | 22.1                       |
| 1991               | 2,384,950                      | 62.4                       | 353,285                        | 11.2                    | ..2                        |
| 1992               | 2,384,950                      | 77.5                       | 0                              | 0                       | 77.5                       |
| 1993 to<br>2014    | 2,384,950                      | <u>3,649.4<sup>b</sup></u> | 0                              | <u>0</u>                | <u>3,649.4<sup>b</sup></u> |
| Total              |                                | <u>\$3,971.5</u>           |                                | <u>\$161.4</u>          | <u>\$3,810.1</u>           |

<sup>a</sup>The government leases space in terms of billable square feet. Space for halls, vestibules, and restrooms is deducted from the gross square feet.

<sup>b</sup>This amount represents the sum of the annual lease costs which would be incurred in each of the 22 years remaining in the 30-year period.

<sup>c</sup>Lease costs are based on the rates actually being paid under ongoing lease arrangements and the estimated rates upon renewal. The renewal rates were developed by taking the fiscal year 1983 lease rates estimated by GSA and updating them to current dollars using the consumer price index inflation factors. The estimated 1983 lease rates per square foot for the locations affected by the redevelopment plan are shown below.

| <u>Location</u>                                    | <u>Estimated lease rate</u> |
|--|-----------------------------|
| Rosslyn, Va.                                       | \$21.00                     |
| Crystal City, Va.                                  | 20.00                       |
| Ballston, Va.                                      | 18.00                       |
| Other Va. suburbs (Hoffman Webb, NASSIF Buildings) | 16.25                       |
| NW Washington (TAMOL Building)                     | 20.00                       |

PRESENT VALUE ANALYSIS

Present value compares alternative programs' governmentwide impact, including interest, by considering the time value of money. Present value provides a convenient way of recognizing federal interest costs that are a consequence of agency expenditures. Interest costs result from federal expenditures because the expenditures cause the government to increase borrowing or to forego an opportunity to reduce borrowing--in either case, to incur more interest than it otherwise would. Comparing the costs of alternative programs at present value is done by the technique of discounting. This technique determines the amount of money which, if invested today at a selected interest rate, would be sufficient to meet expected future costs.

Table 4 compares, on a present value basis, the cost of redeveloping the Navy Yard with the cost of continuing to lease office space. The 11 percent interest rate used to discount current dollar flows was based on long-term government borrowings as of January 1984. The present value analysis shows that continuing to lease space over a 30-year period would cost the government \$653.6 million whereas the redevelopment plan would cost the government \$390.9 million for the same period--a difference of \$262.7 million.

Present value analysis is highly sensitive to the discount rate used. For example, the difference in cost by implementing the redevelopment plan would be \$701 million less at a 7 percent discount rate, \$263 million less at the 11 percent rate we used, and \$73 million less at a 15 percent discount rate.

Table 4

Present Value Analysis

| Fiscal<br>year         | 11 percent<br>discount<br>factor | Present leasing arrangement |                     | Redevelopment plan |                            |
|------------------------|----------------------------------|-----------------------------|---------------------|--------------------|----------------------------|
|                        |                                  | Current<br>costs            | Discounted<br>costs | Current<br>costs   | Discounted<br>costs        |
| ----- (millions) ----- |                                  |                             |                     |                    |                            |
| 1985                   | .901                             | \$ 23.2                     | \$ 20.9             | \$ 29.2            | 26.3                       |
| 1986                   | .812                             | 25.8                        | 20.9                | 60.3               | 49.0                       |
| 1987                   | .731                             | 28.9                        | 21.1                | 110.4              | 80.7                       |
| 1988                   | .659                             | 30.8                        | 20.3                | 125.5              | 82.7                       |
| 1989                   | .593                             | 33.1                        | 19.6                | 109.3              | 64.8                       |
| 1990                   | .535                             | 40.4                        | 21.6                | 86.9               | 46.5                       |
| 1991                   | .482                             | 62.4                        | 30.1                | 20.3               | 9.8                        |
| 1992                   | .434                             | 77.5                        | 33.6                | 9.8                | 4.3                        |
| 1993 to<br>2014        | a                                | <u>3,649.4</u>              | <u>465.5</u>        | <u>480.6</u>       | <u>61.0</u>                |
| Total                  |                                  | <u>\$3,971.5</u>            | <u>\$653.6</u>      | <u>\$1,032.3</u>   | <u>\$425.1<sup>b</sup></u> |

<sup>a</sup>The discount factor continues to decrease over the remaining 22 years of the 30-year period. The 1993 to 2014 line in the above table summarizes the costs to be incurred over the final 22 years.

<sup>b</sup>The redevelopment cost must be reduced by the value of the investment at the end of the 30 years. This value is estimated to be \$776.6 million in current dollars and \$34.2 million in discounted dollars (determined by multiplying \$776.6 million by the discount factor of .044). Therefore, the net present value of the redevelopment plan would be \$425.1 million less \$34.2 million or \$390.9 million.



## THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

MANPOWER,  
INSTALLATIONS  
AND LOGISTICS

5 JUN 1984

Mr. Frank C. Conahan  
Director  
National Security and International  
Affairs Division  
United States General Accounting Office  
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "Navy Plan for Providing Centralized Office Space at the Washington Navy Yard is Cost Effective," dated April 30, 1984, (GAO Code Number 394009) OSD Case Number 6519.

The Department concurs with the report and agrees with the GAO calculations of the estimated savings -- that the Federal Government could save approximately \$2.9 billion over the next 30 years by redeveloping the Washington Navy Yard and vacating all leased office space occupied by the Navy in the National Capital Region.

Several statements in the draft report need to be clarified. First, the existing leases in question are General Services Administration (GSA) leases, not Navy leases. Second, Navy's 1981 redevelopment master plan provides for medium density areas in the east and west sections of the Navy Yard, as opposed to high density areas. Third, clearer distinction should be made that funding sought in Fiscal Year 1985 for building conversion at the Navy Yard is not connected with the 1981 redevelopment master plan to vacate leased space. Rather, the project would satisfy a portion of new Navy space requirements. Please note that this project addresses only about one-third of the new requirements, and that subsequent to data collection by GAO, planned building occupancy was revised. Consequently, no functions would be relocated from leased space in Northern Virginia as a result of the Fiscal Year 1985 project.


Finally, since GAO collected data, several events have occurred which affect Navy's ability to implement fully the 1981 master plan. The GSA has announced its own master plan for the contiguous Southeast Federal Center, in which GSA proposes demolition of buildings which are retained in Navy's plan. The GSA plan raised the question as to whether GSA is still willing to transfer a portion of its property to Navy to enable Navy's 1981 plan to be fully implemented. Moreover, the Fiscal Year 1985 Navy Yard project would satisfy new space requirements in a building which was designated in the 1981 plan for relocation of employees from leased space. If the project is authorized and



funded, the affected building would be unavailable for occupants from leased space. In view of these circumstances, Navy's 1981 plan would be reevaluated and revised.

The Department appreciates the opportunity to comment on this draft report.

Sincerely,



Jerry L. Calhoun  
ACTS Assistant Secretary of Defense  
(Manpower, Installations & Logistics)

(394009)

END

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EDITION